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EXAMINER	
YUEN, KAN	

ART UNIT	PAPER NUMBER
2464	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/633,444	ROEDER, MICHAEL T.	
	Examiner	Art Unit	
	KAN YUEN	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 6-23* is/are rejected.

7)☒ Claim(s) *4 and 5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

2. Applicant's arguments filed on 9/1/2010 have been fully considered but they are not persuasive.

3. Arguments in regards to the 112, First Paragraph

Regarding claims 17 and 23, the applicant argues that the specification has proper support for the subject matter recited in claims 17 and 23. However based on page 6, line 17-26 of the specification, the Examiner believes the claimed element is still not supported by the specification.

Claimed element as recited in claim 23:

in each of the plurality of routers,

means for determining whether the packet is to be routed by another one of the plurality of routers in response to the identified current load; and

means for transmitting an address resolution protocol (ARP) request to other ones of the plurality of routers in response to a determination that the packet is to be routed by another one of the plurality of routers

The specification discloses in page 6, lines 17-26,

Here, the automated process for load balancing between routers begins when one of the hosts 102 wants to send a packet to a new external destination 110 and broadcasts 304 an ARP request message to the LAN 104. ARP refers to address resolution protocol. ARP may be used to translate an IP address of a destination host to a physical address. A look-up table (ARP cache) may be used to perform the translation. If the IP address is not found in the ARP cache, an ARP request message may be broadcast to the network. For proxy ARP or transparent subnetting, the

destination host does not receive and respond to the broadcast, but a router to that destination does.

The applicant states that the ARP request message from the host is received by a router in the LAN to process the message.

The Examiner respectfully disagrees, because the specification does not provide a concrete evident or expressly disclose the step where **after the LAN receives the ARP message, the LAN forwards the ARP message to a router coupled to the LAN to process the message**. Therefore, the specification fails to specifically disclose the omitted step.

Next, the applicant states that the phrase "A look-up table (ARP cache) may be used to perform the translation" refers to the look-up table located in the first router that receives the ARP request message from the host. **Although the specification does not indicate** that the look-up table (ARP cache) is of a router, it is well known in the art that every router has a look-up table to route data packets.

Next, the applicant states the phrase "if the IP address is not found in the ARP cache, the ARP request message may be broadcast to the network" means if the first router **does not find the IP address** of the destination in its look-up table, the first router sends the ARP request message that is has received to the other routers in the network.

In other words, the first router sends the ARP request message to the other routers based on the missing of the IP address in the ARP cache.

The Examiner respectfully disagrees, because according to the applicant's statement above, the first router sends the ARP request message to the other routers in the network based on the determination that the **IP address is not found** in the ARP cache. In contrast, the claimed element recited in claims 17 and 23, which claim the feature for transmitting an ARP request to other ones of the plurality of routers in **response to a determination that the packet is to be routed by another one of the plurality of routers, where the determination is referring to the identified current load of each router**.

Therefore the newly amended claim 23 is significantly different and is not supported by the present specification.

Claim 17 is rejected similar to claim 23, because it has the similar features as recited in claim 23.

4. Argument in regards to 103(a) Rejection

Regarding claims 17 and 23, the applicant argues that Datta et al. failed to disclose the means for identifying a current load of the plurality of routers". The Examiner respectfully disagrees and will further explain the rejection.

According to column 15, lines 15-35 of Datta et al., the paragraphs states: "A more complex approach to router 110 selection may also be taken by using load information 410 together with a load balancing method implemented in the router selector 406 of the controller 202.Inquiry packets may also be sent by the controller 202 to individual (each) routers 110 to obtain information about characteristics such as the

number and type of processors used by the router 110, the memory buffer capacity of the router 110, the past and/or current load on the router 110.

Since the controller 202 and its components (see fig. 4) including the selector 406 may be implemented on one or more of the nodes 102 and/or routers 110 (see column 13, lines 57-60), therefore the routers 110 may include the functionality to acquire each individual routers 110 to obtain the current load of each routers.

In addition, the applicant argued that Datta et al. failed to disclose the means for determining whether the packet is to be routed by another one of the plurality of routers in response to the identified current load". The Examiner respectfully disagrees and will further explain the rejection.

According to column 15, lines 15-35 of Datta et al., the paragraphs states: "A more complex approach to router 110 selection may also be taken by using load information 410 together with a load balancing method implemented in the router selector 406 of the controller 202.Inquiry packets may also be sent by the controller 202 to individual (each) routers 110 to obtain information about characteristics such as the number and type of processors used by the router 110, the memory buffer capacity of the router 110, the past and/or current load on the router 110. The reference specifically states that the controller 202 and its components (see fig. 4) may be implemented on one or more of the nodes 102 and/or routers 110, therefore by implementing the functionality of the controller 202 into the routers 110, each routers 110 has the capability to perform the router selection based on the current load information of all the routers 110.

In addition, the applicant argued that Datta et al. failed to disclose the "means for receiving the ARP request from the other ones of the plurality of router". The Examiner respectfully disagrees and will further explain the rejection.

According to Bhaskaran in column 9, lines 40-50, which states: "flowswitch 302 detects ARP requests to either of routers 202 or 104 from servers 106 and 108 and hosts 604 and 606 ...". Thus, the flowswitch is able to receive ARP requests destined to either of routers 202 or 104 from the servers and hosts.

In addition, the applicant argued that Datta et al. failed to disclose the "means for.... applying an algorithm at each of the other ones of the plurality of routers..". The Examiner respectfully disagrees and will further explain the rejection.

Since the controller 202 and its components (see fig. 4) including the selector 406 may be implemented on one or more of the nodes 102 and/or routers 110 (see column 13, lines 57-60), therefore the routers 110 may include the functionality to select a router to respond to the ARP requests.

In addition, the applicant argued that Datta et al. failed to disclose the "means for transmitting an ARP request to other ones of the plurality of routers in response to a determination that the packet is to be routed by another one of the plurality of routers". The Examiner respectfully disagrees and will further explain the rejection.

According to Bhaskaran in column 6, lines 32-45, which states: "In step 501, flowswitch 302 monitors the router traffic to detect whether a failed router has recovered by sending either ARP requests or ping the routers with ICMP echo requests.". Thus,

the ARP requests are sent to plurality of routers to determine whether the failed router has recovered.

Claim Rejections - 35 USC § 103

5. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 6, 7, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (Pat No.: 5473599) in view of Espieu et al. (Pub No.: 2003/0200333) and further in view of Primak et al. (Pub No.: 2003/0158951).

Regarding claim 1, Li et al. disclosed the method of load balancing between a plurality of routers by automated resetting of gateways, the method comprising:

receiving a packet at a first router from a source host to be forwarded to a destination host (Li et al. see column 6, lines 27-40, fig. 2b). A network segment 118

includes host H, a group of routers (R1-R3) and virtual router R4.Host H is connected to routers R1-R3 via cable 120 and bi-directional line 74 for data transmission;

applying an algorithm at the first router to select a second router to be a next gateway for the source host for packets destined to the destination host in response to a determination that the packet is to be routed by another one of the plurality of routers (Li et al. column 16, lines 10-25). When the active router (the first router) receives a packet and decides that the optimal route is through the standby router (second router), the active router could send ICMP redirect message to the host. The decision to select the second router implied that a selection algorithm/method (based on router's priority) was performed by the active router in order to select the standby router as the optimal router for routing data via an associated optimal route;

sending an ICMP redirect message from the first router to the source host to reset a default gateway of the source host to be the second router for packets destined to the destination host (Li et al. column 16, lines 10-25). By sending the ICMP redirect message from the active router, it indicates to the host to use the standby router, and the host would then issue an ARP request for the standby router's primary address. Thereafter the host would route packets through the standby router.

However, Li et al. does not explicitly disclose the features for identifying a current load on the first router; determining whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router; and selecting a second router from the plurality of routers.

Espieu et al. from the same or similar fields of endeavor disclosed the features for identifying a current load on the first router; determining whether the packet is to be routed by another one of the plurality of routers based upon the identified current load of the first router (Espieu et al. see paragraphs 0009, 0018, fig. 2). Each router continually examines its own load. Assuming that the workload of router 12 (first router) becomes high than a predetermined high threshold, a lower priority is assigned to one of the group of servers, for instance group 18, thus transferring the flow of data to router 14 (another router), the priority of which is higher than the priority of router 12 for the group 18. If the load of router 12 again becomes high than the predetermine high threshold, the priority of router 12 is replaced by a lower priority for the second group of servers 20, so that the second group of servers 20 transfers its flow of data to router 14;

Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the method as taught by Li et al. to include the feature as taught by Espieu et al. Such feature includes automatically and periodically examining the load of the router and assigning thereto a new priority for at least a group of servers lower than the priorities associated with all routers if the load becomes higher than a predetermined value and replacing priority values. The motivation for using the feature being that it improves transmission reliability by distributing the extra load to other less congested routers.

Primak et al. from the same or similar fields of endeavor disclosed the feature of selecting a second router from the plurality of routers (Primak et al. see paragraphs 0043-0045, fig. 2). When the dynamic content router 10 receives a request from the

web server 20b, the dynamic content router 10 examines the header of the request for a session ID. If no matching session record is found, the router 10 selects an application server from a plurality of application servers based on available capacity (load values stored in the load table 18).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method as disclosed by Li et al. in view of Espieu et al. to include the feature as disclosed by Primak et al. to select a router with the lowest load.

The motivation would be to increase transmission efficiency.

Claim 7 is rejected similar to claim 1.

Regarding claim 6, Primak et al. disclosed the feature of wherein the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers (Primak et al. see paragraphs 0043-0045, fig. 2).

Regarding claim 13, Primak et al. disclosed the feature wherein the apparatus is configured to communicate load levels to and receive load levels from other routing apparatus, and wherein the selection module applies a load-based algorithm (Primak et al. see paragraphs 0043-0045, fig. 2).

Regarding claims 14-16, although Primak et al. does not explicitly disclosed wherein the selection module applies the load based algorithm comprises weighted hash, weighted round robin and pseudo-random algorithms, however since the load-based algorithm is known in the field therefore it is obvious to a person of ordinary skill in the art at the time of the invention to use the other similar types of known algorithms

to be perform in combination with the load based algorithm. The motivation would be to increase transmission efficiency in the network.

8. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (Pat No.: 5473599), in view of Espieu et al. (Pub No.: 2003/0200333) and Primak et al. (Pub No.: 2003/0158951) as applied to claim 1 above, and further in view of (Request for Comments) RFC 1256 S. Deering 1991.

Regarding claims 2 and 8, Li et al., Espieu et al. and Primak et al. did not explicitly disclose the feature wherein the algorithm comprises a pseudo-random algorithm.

Deering from the same or similar fields of endeavor disclosed feature wherein the algorithm comprises a pseudo-random algorithm (Deering page 10).

Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the feature as taught by Deering in the network of Li et al., Espieu et al. and Primak et al. The motivation for using the feature being that it provides security in the network.

9. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (Pat No.: 5473599), in view of Espieu et al. (Pub No.: 2003/0200333) and

Primak et al. (Pub No.: 2003/0158951) as applied to claim 1 above, and further in view of Datta et al. (Pat No.: 6295276)

Regarding claims 3 and 9, Li et al., Espieu et al. and Primak et al. did not explicitly disclose the feature wherein the algorithm selects the next default gateway using a round robin type process.

Datta et al. from the same or similar fields of endeavor disclosed the feature wherein the algorithm selects the next default gateway using a round robin type process (see column 15, lines 1-15).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method as disclosed by Li et al. and Espieu et al.

The motivation would be to increase transmission efficiency in the network.

10. Claims 10, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al. (Pat No.: 5473599), Espieu et al. (Pub No.: 2003/0200333) and Primak et al. (Pub No.: 2003/0158951) as applied to claim 10 above, and further in view of Wiryaman et al. (Pat No.: 7010611).

Regarding claim 10, Li et al. Espieu et al. and Primak et al. all did not explicitly disclose the feature wherein the selection module applies a hash function.

Wiryaman et al. from the same or similar fields of endeavor disclosed the feature wherein the selection module applies a hash function (Wiryaman et al. column 3, lines 20-30). Thus, it would have been obvious to the person of ordinary skill in the art at the

time of the invention to use the feature as taught by Wiryaman et al. in the network of Li et al. Espieu et al. and Primat et al. The motivation for using the feature being that it provides user flexibility for packet classification.

Regarding claim 11, Wiryaman et al. disclosed the feature wherein the hash function is a function of the source IP address (Wiryaman et al. column 3, lines 20-30).

Regarding claim 12, Wiryaman et al. disclosed the feature wherein the hash function is a function of a combination of the source and destination IP addresses (Wiryaman et al. column 3, lines 20-30).

11. Claims 17, 18 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Datta et al. (Pat No.: 6295276) in view of Bhaskaran (Pat No.: 5963540).

For claim 23, Datta et al. disclosed the system of load balancing between a plurality of routers involving automated selection of a router to respond to an ARP request, the system comprising:

in each of the plurality of routers (fig. 3, routers 110);

means for receiving a packet from a requesting host for forwarding via a network (see column 7, lines 20-30, fig. 3). Data packet is being sent by a first node 306 to a second node 330. The data packet has a physical address corresponding to the source node 306 and also has an IP address corresponding to the destination node 330;

means for identifying a current load of the plurality of routers;

means for determining whether the packet is to be routed by another one of the plurality of routers in response to the identified current load (Datta et al. see column 15, lines 15-35). The load information indicator 410 on which the load balancing algorithm operates can be acquired. Inquiry packets may also be sent by the controller 202 to individual routers 110 to obtain information about current load. Thus the current load indicator implies that when one of the routers 110 is currently overloaded, the router selector 406 of the controller may select different router 110 to route the packets. The controller 202 and its components may each be implemented on one or more of the nodes 102 and routers 110 (see column 13, lines 57-67). Thus, each router 110 may comprise the functionality of the controller 202;

means for receiving the ARP request from network client 106 (see column 15, lines 65-67). At least one network client (requesting host) which generates an ARP request to which the ARP responder 412 provides a response;

means for performing the automated selection of the router to respond to the ARP request by applying an algorithm at each of the other ones of the plurality of routers to determine which single router is to respond to the ARP request (see column 15, lines 15-45, fig. 4, router selector 406, ARP responder 412). The router selecting may be implemented using the router selector 406 of the controller 202. The selection may be made in view of historic selection data 408 or in view of router load information 410. Since the selection is done by a router/controller (processor), thus it is considered to be automatic. The ARP responder 412 provides responses to ARP requests that

contain the IP address of an identified router 110, each response specifying the physical address of an identified router 110 which was selected by the router selector 406; and

means for sending an ARP reply from the selected router to the requesting host (see column 17, lines 1-15, fig. 5, ARP responder 412). The ARP responding may be performed using an ARP responder 412.

However, Datta et al. did not explicitly disclose the means for transmitting an address resolution protocol (ARP) request to other ones of the plurality of routers in response to a determination that the packet is to be routed by another one of the plurality of routers; and means for receiving the ARP request from the other ones of the plurality of routers an address.

Bhaskaran from the same or similar fields of endeavor disclosed the means for transmitting an address resolution protocol (ARP) request to other ones of the plurality of routers in response to a determination that the packet is to be routed by another one of the plurality of routers; and means for receiving the ARP request from the other ones of the plurality of routers an address (Bhaskaran see column 2, lines 64-67, column 3, lines 1-10, and column 4, lines 50-67, column 5, lines 1-10). Flowswitch 302 monitors the status of routers 202 and 104 by monitoring the ICMP RDP advertisements sent out by routers 202 and 104 periodically. When a router fails (determinates that the packet should be routed by other routers), the failed router will no longer send out these advertisements, and therefore the router is identified as failure. Thereafter, the flowswitch continues detects if the failed router has recovered when the router correctly responds to a user-configured predetermined number of consecutive ARP requests sent

by the flowswitch. Thus, the flowswitch knows which router is functional and which is non-functional by monitoring the status (current load) of the routers;

When the servers eventually send ARP requests to the failed router, the switch circuit (flowswitch) responds to the ARP request with the MAC address of a functional (optimal) router instead of the address MAC OF the failed router. The subsequent outbound traffic from the servers will now be automatically directed to the functional router. The load towards the routers is balanced by maintaining a list of server that are actively issuing ARP requests, and allocating router MAC address based on round robin fashion. Thus, the server knows the load information of the routers, and issue ARP requests accordingly. Since the ARP is well known in the art, it is obvious to a person of ordinary skill in the art at the time of the invention to realize that the routers, switches, servers or host are able to inter-transmit and receive ARP requests to and from each other.

Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the routers as taught by Datta et al. and to implement the routers and the flowswitch as taught by Bhaskaran in the network of Datta et al. for load balancing. The motivation for using the feature as taught by Bhaskaran in the network of Datta et al. being that it simplifies the routing configuration of the servers and the hosts.

Claim 17 is rejected similar to claim 23.

Regarding claim 18, Datta et al. disclosed the feature for forwarding a packet from the source IP address to the destination IP address (Datta et al. see column 1, lines 25-35).

Regarding claim 21, Datta et al. disclosed the feature wherein the algorithm determines the responding router using a round robin type selection process (Datta et al. column 7, lines 40-50).

Regarding claim 22, Datta et al. disclosed the feature wherein the algorithm is load based, and further comprising communicating load levels amongst the plurality of routers (Datta et al. column 15, lines 1-45).

12. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Datta et al. (Pat No.: 6295276) in view of Bhaskaran (Pat No.: 5963540) and further in view of Wiryaman et al. (Pat No.: 7010611).

Regarding claim 19, Datta et al. and Bhaskaran both did not explicitly disclose the feature wherein the algorithm comprises a hash function. Wiryaman et al. from the same or similar fields of endeavor disclosed the feature wherein the algorithm comprises a hash function (Wiryaman et al. column 3, lines 20-30).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the feature as taught by Wiryaman et al. in the network of Datta et al. and Bhaskaran. The motivation for using the feature being that it provides user friendliness for packet classification.

Regarding claim 20, Wiryaman et al. disclosed the feature wherein the hash function is a function of the source and destination IP addresses (Wiryaman et al. column 3, lines 20-30).

Allowable Subject Matter

13. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Examiner's Note:

Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAN YUEN whose telephone number is (571)270-1413. The examiner can normally be reached on Monday-Friday 10:00a.m-3:00p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky O. Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kan Yuen/
Examiner, Art Unit 2464

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2464

KY